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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,949	04/16/2004	Stephen K. Pinto	17146-005001	1606

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EXAMINER	
GAMI, TEJAL	
ART UNIT	PAPER NUMBER
2121	

NOTIFICATION DATE	DELIVERY MODE
09/17/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No.	Applicant(s)	
	10/826,949	PINTO ET AL.	
	Examiner	Art Unit	
	TEJAL J. GAMI	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/12/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to a REQUEST FOR CONTINUED EXAMINATION entered June 12, 2008 for the patent application 10/826949.

Status of Claims

2. Claims 1-13 were rejected in the last Office Action dated December 12, 2007. Claims 1-13 are now presented for examination in this office action.

Double Patenting

3. Claims 7-13 of this application conflict with claims 8-14 of Application No. 10/826711, respectively. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 7 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 8 of copending Application No. 10/826711.

This is a provisional obviousness-type double patenting rejection.

Claim 7 of this instant application	**Claim 8 of the application 10/826,711**
A machine-based method comprising in connection with a project based on historical data about a system being modeled, generating a predictive model, and portraying to a user through a graphical user interface a sequence of dimension reduction having two or more steps.	A machine-based method comprising in connection with a project in which a user generates a predictive model based on historical data about a system being modeled, providing to the user through a graphical user interface a structured sequence of model generation activities to be followed, the sequence including sample dataset generation, variable

	transformation, dimension reduction, model generation, model process validation, model re-generation, and list scoring.

Note the comparisons above, respectively Claim 7 of the instant application are not patentably distinct from claim 8 of the application 10/826711 because as shown from the table above claim 8 of application 10/826711 fully shows the limitations of claim 7 of the instant application. For example, claim 7 of the instant application is broader in scope and does not mention a number of limitations such as "model process validation, model re-generation, and list scoring" as recited in claim 8 of the application 10/826711. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have claim 7 of the instant application be clearly shown by claim 8 of application 10/826711.

As to pending dependent claims 8-13 are deficient in that they correspond to claims 9-14 of application 10/826711.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Bounsaythip and Rinta-Runsala "Overview of Data Mining for Customer Behavior Modeling" - Finland: VTT Information Technology, Research Report TTE1-18, 2001 (hereinafter “Bounsaythip”).

As to independent claim 1, Bounsaythip discloses a machine-based method comprising receiving historical (see Page 7, Figure 3) multi-dimensional data representing multiple variables (e.g., multi-dimensional) (see Page 13, Section 3.3.1 Definition; and Page 44, Checkpoint 5), transforming variables into more predictive variables (e.g., predictive model) (see Page 8, Section 2.4.1 Data sampling), including Bayesian renormalized variables (see Page 32, Section 3.8 Other data mining methods; and Page 18, Section 3.4.4 Advantages/Disadvantages), linearly transformed and non-linearly transformed variables and imputed missing values for categorical or continuous variables (e.g., classification and regression) (see Page 11, Classification and Regression), pruning variables for which the data is sparse or missing (e.g., pruning) (see Page 19, Section 3.5.2 Tree induction), adjusting a population of variables to represent main effects exhibited by the data and significant interaction and non-linear effects exhibited by the data (e.g., data mining to visualize non-linear interaction of variables) (see Page 10, First two Paragraphs), and using the adjusted population of variables to generate a predictive model for interacting with a commercial system (e.g., build the model to predict) (see Page 7, Section 2.4 Model building).

As to independent claim 7, Bounsaythip discloses a machine-based method comprising in connection with a project based on historical data about a system being modeled (see Page 7, Figure 3), generating a predictive model (e.g., build the model to predict) (see Page 7, Section 2.4 Model building), and portraying to a user through a graphical user interface a sequence of dimension reduction having two or more steps (e.g., dimension reduction) (see Page 6, Last Paragraph continuing to Page 7; and Page 14, Section 3.3.3 Advantages/Disadvantages).

As to dependent claim 2, Bounsaythip teaches the method of claim 1 in which adjusting the population of variables to represent interaction effects includes stages of main effect interactions, main effects with main effect interactions and excluded variable interactions, and main effects with main effect interactions and excluded variable interactions together with excluded variable combined interactions (e.g., visualizing multiple interactions) (see Page 14, Section 3.3.3 Advantages/Disadvantages).

As to dependent claim 3, Bounsaythip teaches the method of claim 1 in which the predictive model predicts behavior (e.g., patterns of behavior) of a current customer with respect to retention of a current service or product of a vendor (e.g., customers products and services) (see Page 11, Association and sequencing).

As to dependent claim 4, Bounsaythip teaches the method of claim 1 in which the predictive model predicts behavior of a current customer with respect to risk of asserting claims, loan payment or prepayment to a vendor (e.g., loan) (see Page 17, Section 3.4.3 Illustration).

As to dependent claim 5, Bounsaythip teaches the method of claim 1 in which the predictive model predicts behavior of a current customer with respect to usage of a current service or product of a vendor (e.g., customers products and services) (see Page 11, Association and sequencing).

As to dependent claim 6, Bounsaythip teaches the method of claim 1 also including enabling a user to reconstruct a sequence of choices involved in the creation of the predictive model (e.g., discovered sequence) (see Page 35, Section 4.1.2 Customer retention with sequential patterns).

As to dependent claim 8, Bounsaythip teaches the method of claim 7 in which the system being modeled comprises behavior of prospective or current customers of a vendor with respect to products or services offered by the vendor (e.g., customers products and services) (see Page 11, Association and sequencing).

As to dependent claim 9, Bounsaythip teaches the method of claim 7 in which the predictive model predicts behavior of a prospective or current customer with respect to purchase of a product or service of a vendor (e.g., customers products and services) (see Page 11, Association and sequencing).

As to dependent claim 10, Bounsaythip teaches the method of claim 7 in which the predictive model predicts behavior of a current customer with respect to retention of a current service or product of a vendor (e.g., customers products and services) (see Page 11, Association and sequencing).

As to dependent claim 11, Bounsaythip teaches the method of claim 7 in which the predictive model predicts behavior of a current customer with respect to risk of

asserting claims, loan payment or prepayment to a vendor (e.g., loan) (see Page 17, Section 3.4.3 Illustration).

As to dependent claim 12, Bounsaythip teaches the method of claim 7 in which the predictive model predicts behavior of a current customer with respect to usage of a current service or product of a vendor (e.g., customers products and services) (see Page 11, Association and sequencing).

As to dependent claim 13, Bounsaythip teaches the method of claim 7 in which the user interface controls staging of the sequence of model generation activities (e.g., generate models) (see Page ii; and Page 8, 2.4.1 Data sampling).

Response to Arguments

8. Applicant's amendment and arguments filed June 12, 2008 have been fully considered. The amendment does not overcome the original art rejection and the arguments are not persuasive. The following are the Examiner's observations in regard thereto.

Applicant Argues:

Bounsaythip does not describe and would not have made obvious, for example, transforming variables into more predicative variables that include Bayesian renormalized variables.

Examiner Responds:

Examiner is not persuaded. See prior art Page 18, Section 3.4.4 Advantages/Disadvantages where Bounsaythip discloses neural network inputs need to be normalized between 0 and 1. Under such consideration, the prior art anticipates

transforming variables into more predictive variables that include Bayesian renormalized variables.

Applicant Argues:

Bounsaythip does not describe and would not have made obvious the features of claim 7. Although Bounsaythip describes dimension reduction in data preparation for modeling (see, e.g., Id., pages 6-7), Bounsaythip does not describe and would not have made obvious that his dimension reduction includes at least two or more steps. Nor does Bounsaythip describe and would not have made obvious providing a sequence of dimension reduction having at least two or more steps to a user through a graphical user interface. In fact, Bounsaythip is silent on both "providing the sequence of dimension reduction" "to a user" and "through a graphical user interface."

Examiner Responds:

Examiner is not persuaded. See prior art Page 6, Last Paragraph that continues to Page 7, where Bounsaythip discloses a number of dimension reduction steps, for example, "data reduction techniques (data cube aggregation, dimension and numerosity reduction, discretization and concept hierarchy generation). Dimension reduction means that one has to select relevant feature to a minimum set of attributes such that the resulting probability distribution of data classes is as close as possible to the original distribution give the values of all features. For this addition tools may be needed, e.g. exhaustive, random or heuristic search, clustering, decision trees or associations" and also see Page 14, Section 3.3.3 Advantage/Disadvantages where Bounsaythip discloses "multi-dimensional data and transform them into a map of fewer dimensions, such as a 2-dimensional plot. The 2-dimensional plot provides an easy-to-use graphical user interface." Under such considerations, the prior art anticipates "providing the sequence of dimension reduction" "to a user" "through a graphical user interface."

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tejal J. Gami whose telephone number is (571) 270-1035. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Albert DeCady/
Supervisory Patent Examiner
Tech Center 2100

/TJG/

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	10/826,949	PINTO ET AL.	
	Examiner	Art Unit	
	TEJAL J. GAMI	2121	